

This animal is met with on the western borders of Griqualand West, and all along the eastern edge of the Kalahari desert, and all over south Central Africa wherever I have travelled from the Limpopo to the Zambesi; and from the Mashuna country to Lake Ngami it is to be found in those districts that are suitable to its habits. Like the Tsessebe it is partial to open downs devoid of bush, or open glades in the forest, and is never met with in hilly countries. On the Mababe flat it congregates in immense herds during the dry season. In the Manica country, north of the Zambesi, I did not see any Blue Wildebeest; but the natives told me that to the west of the river Kafukwe, in the country of the Mashukulumbwe, they were plentiful. The horns of the males attain a spread of from 2 feet 2 inches to 2 feet 5 inches. It is very common to see one Blue Wildebeest feeding in company with a herd of other Antelopes, such as the Tsessebe, or with a herd of Zebras or Ostriches. The Blue Wildebeest is very swift and enduring.

5. On some new Genera and Species of Araneidea. By the
REV. O. P. CAMBRIDGE, M.A. &c.

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(Plate LXVI.)

Six Spiders only are described in the present short paper—four of them from the Amazons, one from Ceylon, and one from Madagascar. They have not been designedly selected for the purpose; but, as it happens, two of them represent, perhaps, the most extreme known instances of eccentric development—one of the *caput*, the other of the *abdomen*. It is difficult to imagine any possible utility to the Spider in such developments, while it is not so difficult to conjecture some disadvantages. This, however, in the absence of information as to the life and habits of the Spiders, is, of course, mere conjecture. The development of *abdomen* referred to is in *Ariannes attenuata*, sp. n. In this Spider the posterior extremity of the abdomen of the male is produced to an extent of very nearly (if not quite) *eight times* its normal length. That of the female is also much produced, but not to so great an extent. In the other instance, the *caput* of *Eriauchenus workmanni* (gen. et sp. nn.) is not only elevated to an almost unprecedented height, but it furnishes the only instance known to me in which *the elevation of the ocular area* (of itself not an unusual occurrence in the Araneidea) has, as it were, carried up with it the lower margin of the caput, and so necessitated a corresponding development in the length of the falces. Of the remaining Spiders, *Thwaitesia margaritifera* (gen. et sp. nn.) is one of exceedingly delicate beauty, the silvery pearl-like scales on its abdomen forming a most beautiful object for the microscope; and *Bucranium taurifrons* (gen. et sp. nn.) has enabled me to fix (I think, without doubt) the hitherto doubtful systematic position of

Aphantochilus, Cambr. (P. Z. S. 1870, p. 744). This latter genus was conjectured to belong to the Myrmecidæ; but I have now no hesitation in forming for it and the genus *Bucranium* a separate family (Aphantochilidæ), near to the Thomisidæ. More extended remarks on all these points will be found in the subjoined descriptions.

Order ARANEIDEA.

Fam. THERIDIIDÆ.

Gen. nov. THWAITESIA.

This genus is nearly allied to *Theridion*, but may be easily distinguished by the conically elevated abdomen, the shorter, stronger maxillæ, the more prominent ocular area, the larger eyes, which, although preserving a similar general arrangement, are divided into two well separated groups of four each, each group formed by one of the lateral pairs and the hind and fore lateral eye next to it, all four being almost, or quite contiguous to each other; the fore central pair are smallest, and form a shorter line than the hind centrals. The legs also are armed with distinct spines on the genual and tibial joints of all four pairs; while the metatarsi and tarsi of the fourth pair are armed with numerous spine-like bristles, a row near the inner side of the tarsi being curved and serrated. This latter armature, however, is much less strong in the male than in the female; indeed in the male I could not distinguish any serrations. The relative length of the *legs*, which are rather long and slender, is, as far as I could judge from the damaged condition of some portions, 4, 1, 2, 3, the difference between those of the first and fourth pairs being but slight. The falces are weak, straight, and subconical, and the fang likewise small and weak. The sternum is heart-shaped.

THWAITESIA MARGARITIFERA, sp. n. (Plate LXVI. fig. 1.)

Length of the adult male $1\frac{1}{2}$ line, that of the female being rather more than 2 lines.

The *cephalothorax* is pale yellow, some examples having an indistinct reddish-brown central line from the occiput backwards; and two (females) had a broad brown central band from and including the eyes to the hinder extremity of the thorax. The thorax is gibbous above, with the thoracic indentation strong; the ocular area of the caput projects forwards, the eyes (disposed as above mentioned) occupying the whole of the upper extremity of the caput; the height of the clypeus considerably exceeds half that of the facial space, and projects well forwards.

The *legs* are similar in colour to the cephalothorax, the articulation of the tibiæ and metatarsi of the first and fourth pairs having a tinge of reddish brown, and a portion at the extremities of the metatarsi of these pairs being also dark reddish brown. On the upper side of each of the genual joints is a distinct black spine; and on each of the tibiæ are two others, one near the middle and one near the anterior extremity.

The *palpi* of the male are rather long, and similar to the legs in colour; the cubital joint is slightly curved, clavate, and a little longer than the radial joint, with a strongish, dark, curved, tapering bristle directed forwards from its anterior extremity, and a similar one at the extremity of the humeral joint. The digital joints are rather large, oval, with a strong cleft lobe on the inner side, and of a yellow-brown colour; their convex sides are directed towards each other.

The palpal organs are rather complex; a black, filiform, closely adhering spine issues from the middle of their outer or (as they stand in the position in which the palpus is held) upper side, and passing backwards round their margin, terminates near their fore extremity on the inner, or lower, side.

The falces, maxillæ, labium, and sternum are similar in colour to the cephalothorax.

The *abdomen* looked at in profile is somewhat quadrate, one corner (the upper one) being considerably produced, or elevated; in the male its height is distinctly less than the length of the Spider, but in the female it is nearly, and sometimes quite, equal to the length of the Spider. It is of a dull luteous yellowish colour (possibly brighter in the living Spider), its upper and lateral surface more or less thickly covered with scale-like plates of a brilliant silvery pearly nature and of an irregular form. In some examples these plates show very little space between them; in others there is a considerable interval. The genital aperture of the female has a small but characteristic and prominent process connected with it.

Of all the Spiders I am yet acquainted with this is perhaps the most delicately beautiful in the abdominal adornment, to which it would be impossible for any pencil to do adequate justice.

Eight females and one male were included in collections received several years ago from Ceylon, from Mr. G. H. K. Thwaites, to whom I have dedicated the new genus considered necessary for the reception of this pretty Spider.

Gen. nov. ERIAUCHENUS.

Caput elevated, with a long neck, carrying with it not only the eyes but the falces also, which are abnormally produced so as to meet the maxillæ.

Eyes unequal in size, in four pairs; two pairs on each side of the caput, near the insertion of the falces; those of the lower pair on each side represent the ordinary lateral pair, and are contiguous to each other, while those of the upper pair, on each side, represent the fore and hind central pairs, the eyes of each of the two latter pairs being abnormally separated.

Legs long, slender, 1, 2, 4, 3; furnished with hairs only. Terminal tarsal claws three, articulated to a small supernumerary claw-joint.

Maxillæ strong, slightly curved, and inclined towards the *labium*, which is large, somewhat pointed at its apex, where it is slightly notched, and broader across the middle than at the base or apex.

Sternum elongate, strongly dentated or notched on its sides, at the insertion of the legs.

Abdomen of a subtriangular form, the upper side being considerably and conically elevated.

ERIAUCHENUS WORKMANNI, sp. n. (Plate LXXVI. fig. 2.)

Immature male, length from the spinners to the extremity of the maxillæ $2\frac{1}{2}$ lines; height from the sternum to the highest point of the caput $2\frac{1}{2}$ lines.

The *cephalothorax* converges gradually upwards to the anterior portion, which is produced perpendicularly into a longish cylindrical neck, terminating with a large massive caput, the occipital region of which is rounded, and the upper side somewhat flattened and sloping gradually to the insertion of the falces; at the summit of the caput are four small, pointed, tubercular eminences in the form of a quadrangle whose posterior side is narrower than the rest. The colour of the cephalothorax, neck, and caput is yellow-brown, marked in parts with a darker hue, and thinly clothed with short grey hairs; just beneath the caput the neck is paler, giving the appearance of a broad pale neck-collar. The whole height of this extraordinarily developed cephalothorax to the top of the caput equals the length of the Spider.

The *eyes* are in two groups, one on each side of the fore extremity of the caput close to the margin. Each group consists of two pairs, an upper and lower one; the anterior eye of the upper pair is much the largest of the group, and is seated in front and rather at the side of a strong bluntish-pointed tubercular prominence, and close to the margin of the caput; behind this eye is seated the other eye of the pair; this posterior eye is much smaller and very difficult to discern: taking the two posterior eyes, of the upper pair on each side, as representing the ordinary hind central pair, they are nearer together than those of the fore central pair, *i. e.* the anterior eyes of the two upper pairs. The lower pair is considerably removed from the upper one; its eyes are contiguous to each other, and of a pale whitish yellow-brown colour, so like that of the surrounding surface as to be almost imperceptible; their position is very close to the base of the falces on the outer side, about an eye's diameter from the margin of the clypeus, at the middle of which is a prominent point.

The *legs* of the first pair are upwards of five times the length of the Spider, and are considerably longer than any of the rest. All are of a yellowish-brown hue, the femora clouded in parts with a deeper colour; those of the fourth pair are mostly of a paler yellowish hue with a distinct broadish black-brown annulus about the middle; a broader but less distinct annulus is also placed near the hinder extremity of the tibiæ of the third pair; some indistinct annuli, of a darker yellow-brown than the rest of the surface, are also visible on the more or less mutilated portions of the tibiæ and of the metatarsi of the third and fourth pairs. The three terminal tarsal claws, placed at the extremity of a small supernumerary claw-joint, are small and strongly bent; the superior claws appeared to have only one or two denti-

culations. The legs are furnished thinly with hairs, some of which are short and grey.

The *palpi* are short; the digital joint tumid and longer than the radial, which is also longer than the cubital. They are similar in colour to the legs.

The *falces* are of great length, slender, and rather divergent at the extremities, which have also a backward bend; their length is about equal to that of the Spider itself; towards the base, on the upper side, is a strongish conical point or prominence. Their colour is similar to that of the cephalothorax, indistinctly but broadly banded with a deeper hue, furnished thinly with grey hairs, and armed on the inner sides throughout with a longitudinal series of denticulations increasing in strength from the base to the extremity, being exceedingly minute at the base, but rather long and strong at the beginning of the divergent portion, whence to the fang is a series of another kind with a more direct transverse or lateral direction, and giving a comb-like appearance. The fang is strong and much curved at its point.

The *maxillæ* are similar in colour to the falces, and the *labium* and *sternum* are of a darker hue; the form of these parts is described in the generic characters given above.

The *abdomen*, whose height is greater than its length, is yellow-brown above, much darker on the sides, the one being separated from the other by a bluntly dentated or zigzag line of short white hairs. Some indistinct markings formed by lines of white hairs are also visible on the upper side. The underside is dark brownish, variegated with bars and blotches of white hairs. The spinners are compactly grouped; those of the inferior pair are two-jointed, and are the longest and much the strongest of the six.

A single immature example of this most remarkable Spider, found in Madagascar, was kindly sent to me by Mr. T. Workman of Belfast, who has also permitted me to describe and figure it. It is of great interest, not only on account of its singularly elevated caput, but because the elevation is of a type quite distinct from any thing I have ever before met with. Some species of *Walckenaera* have the upper part of the caput elevated to a great height, and the eyes are (some or all) carried up with it; but in the present Spider not only the eyes but the falces also are carried up, necessitating the extraordinary development of the latter to enable them to meet and cooperate with the other parts of the mouth. These would otherwise have been left open and exposed, and the Spider itself would have been in danger of starvation; since the anterior extremities of the falces, with their fangs and teeth, are the main instruments for holding and compressing the Spider's prey, the juices of which flow thence into the mouth itself.

I have no hesitation in founding a new genus on this Spider; and very probably the future discovery of other, allied, species will necessitate the formation of a new family for them. At present I would place it in the family Theridiidæ, in a separate group, near the genera *Argyrodes*, Latr., and *Ariamnes*, Thor.

In the absence of spines on the legs there is a close approach to *Theridion*, Walck., while in their relative length they are like *Linyphia*, Latr. Although the development of the caput is so strong, yet in the adult it would be probably found to be of a still stronger and more extraordinary nature.

Gen. ARIAMNES, Thor. (*Ariadne*, Dol.).

ARIAMNES ATTENUATA, sp. n. (Plate LXVI. fig. 3.)

Adult male, length 8 lines; length of cephalothorax $\frac{3}{4}$ line; length of spinners $1\frac{2}{3}$ line; length of abdomen $6\frac{1}{2}$ lines.

The whole of the fore part of this Spider, including the legs and palpi, is of a dull yellow-brown colour. The abdomen is of a still duller hue, thinly mottled (chiefly on the sides) with small yellowish silvery spots.

The *cephalothorax* is of a rather flattened oblong form, the caput being a little drawn out and elevated at its fore extremity, ending in a short, somewhat conical point in the middle of the ocular area, which is furnished with strong hairs; some of these form a somewhat horn-like tuft and are curved forwards, meeting others curved in an opposite direction.

The *eyes* are unequal in size; those of the fore and hind central pairs (the first being the largest) form a large square surrounding the conical eminence of the caput; the lateral pairs are rather close to the others on either side; those of each lateral pair being contiguous to each other.

The *legs* are long, very unequal in length, 1, 4, 2, 3, slender, furnished with very short fine hairs only.

The *palpi* are long; the cubital joint curved, clavate, and longer than the radial, which is also curved, and enlarged gradually to its fore extremity; the digital joint is large, of an oblong-oval form, somewhat split or bifid at its fore extremity. The palpal organs are complex, composed of variously formed corneous processes, but all tolerably compact.

The *falces* are rather small and weak, straight, and nearly vertical.

The *maxillæ* are strong, especially at their base, inclined towards the labium, and obliquely truncated at the extremity on their outer sides.

Labium short, of a somewhat subtriangular form, and its junction with the sternum scarcely perceptible.

Sternum large, of an elongate triangular shape, strongly hollowed or indented between the insertions of the legs.

Abdomen narrow, and drawn out at its hinder extremity in an exceedingly long tapering cylindrical form, terminating gradually in a fine sharp point. The spinners are compact, and placed beneath the abdomen at a distance from the cephalothorax rather exceeding the length of the latter; the produced portion of the abdomen is more than seven times the length of the rest, *i. e.* from the spinners to the cephalothorax. The abdomen is furnished with hairs, which become longer, coarser, and more abundant towards the hinder extremity.

The female differs from the male chiefly in the abdomen being not quite so long, and the caput wanting the elevation of the fore part.

This curious Spider is nearly allied to *Ariamnes* (*Ariadne*) *flagellum*, Dol., but is, I think, quite distinct. The extraordinary development of the posterior part of the abdomen is perhaps one of the eccentricities in the Spider world least easy to be accounted for. Both sexes were contained in the collection of South-American Spiders sent to me by Prof. Traill, and were found on the Amazons.

Fam. GASTERACANTHIDÆ.

Gen. MUTINA, Cambr.

MUTINA FURCIFERA, sp. n. (Plate LXVI. fig. 4.)

Length of the adult male $1\frac{2}{3}$ line; breadth of the abdomen at its widest part $1\frac{1}{2}$.

This curiously formed Spider is nearly allied to *Mutina prospiciens*, Cambr. (Ann. & Mag. N. H. ser. 4, vol. xiv. p. 175, pl. xvii. fig. 3, 1874), described under the generic name of *Calydna*, which, having been found to be preoccupied, was changed to *Mutina* (vide Zool. Rec. xi. p. 231).

The present Spider, however, may be at once distinguished by the simpler and more cylindrical form of the remarkable processes at the extremity of which the lateral pairs of eyes are seated, and especially by the equally long corneous nose-like process issuing from the clypeus immediately beneath the four central eyes; this process, which is of a cylindrical form, is a little bent, and points rather downwards; it is smallest in the middle, gradually lessening from the base, and enlarging again towards its extremity, where it is strongly and very distinctly bifid or forked.

The *cephalothorax* is somewhat elongated quadrate, strongly constricted on the margins and sides at the caput. The four central eyes are placed at the fore extremity of a slightly prominent portion of the caput; they are rather large, and describe very nearly a square whose fore side is rather the shortest. The colour of the cephalothorax is a deep reddish yellow-brown, the fore part being the palest.

The *legs* are rather short, moderately strong, 1, 2, 4, 3, furnished with hairs and a very few long bristles; a short strongish spine issues from a tubercle in front of the femora of the second pair, and some very short, somewhat tuberculiform spines in a single row along the underside of the tibiæ of the same pair. The colour of the legs is yellow-brown; the femora and fore part of the tibiæ of the first and second pairs strongly suffused with dark brown, as also are the femora of the fourth pair.

The *palpi* are very short; the digital joint is large, and the palpal organs complex and enormously developed.

The *abdomen* is of a short heart-shape and of a dull brownish yellow hue. The upper surface is rather flat, corneous, and presents traces more or less distinct of the various sigilliform markings characteristic of the Gasteracanthidæ. A kind of corneous point terminates the underside of the connecting pedicle, and projects

beneath the posterior extremity of the sternum; but it does not appear (as was suggested, Ann. N. H. loc. cit.) to be articulated or fixed to it.

A single example received from the Amazons was in Mr. Traill's collection.

Fam. APHANTOCHILIDÆ.

Gen. nov. BUCRANIUM.

This genus is allied to *Aphantochilus*, Cambr., but may be readily distinguished by its shorter form and the absence of constriction on the posterior part of the cephalothorax. The *labium* also, though very attenuated, is perfectly visible; and the *sternum*, instead of being very narrow and duplex, is of an ordinary and rather broad heart-shape.

The generic characters may be stated as follows:—

Cephalothorax oval, broad, and truncated before, with a strong marginal lateral constriction at the caput. A strong, curved, tapering pointed horn-like projection issues laterally and forwards from each side of the anterior portion of the upper part.

The *eyes* are unequal in size and placed in two transverse rows; the anterior row straight, the posterior strongly curved, the convexity of the curve directed forward; those of each lateral pair, which are the largest of the eight, are widely separated from each other, and issue from close to the base (before and behind) of the horns. The four central eyes form a square whose anterior side is shortest.

Legs not very long, slender, subequal in length, 4, 1, 2, 3, or 1, 4, 2, 3; furnished with hairs and a few short spines, the latter on the femora only. Each tarsus ends with three claws and a very small claw-tuft.

Maxillæ long, very strong at their base; the upper parts much less strong and just meeting over the *labium*, which is long, very narrow, and pointed at its apex, being in fact of a lanceolate form.

The *sternum* is short, broad, heart-shaped; the anterior margin slightly hollowed. The *abdomen* is short, somewhat oval, and separated from the cephalothorax by a distinct though not very long pedicle.

BUCRANIUM TAURIFRONS, sp. n. (Plate LXVI. fig. 5.)

Length of an immature female, $1\frac{1}{4}$ line.

The *cephalothorax* is yellow-brown, palest on the upper part of the caput; its surface is covered with small tubercles or granulosities, among which are ten or twelve stronger ones, armed with long, strong spines; the two strongest of these tubercles are placed in a short transverse line close to the thoracic indentation, and each is armed with two spines, the rest having but one each.

The *clypeus* is very broad, projecting, and quadrate, with a strong subconical prominence at each of its lower corners, terminating with a prominent spine; the height of the clypeus is equal to nearly half that of the facial space. Besides the spines already noted, each of

the horns is continued by a strong one ; and there are others also, less strong, issuing from the ocular area and clypeus.

The *eyes* of the lateral pairs are considerably larger than the rest, the fore laterals being, apparently, rather the largest ; the interval between those of the fore central pair is distinctly greater than that between each and the fore lateral next to it, while that between the hind centrals is considerably less than that between each and the hind lateral next to it.

The *legs* are yellow-brown, somewhat suffused with a more dusky hue ; the genual, tibial, and metatarsal joints marked longitudinally with a white stripe. The *tarsi* are equal in length and strength to the metatarsi, and cylindrical in form.

The *palpi* are similar in colour to the legs, short, strong ; radial joint short, digital tapering, and furnished with short strong spines.

The *falces* are short, strong, straight, vertical, subconical ; similar in colour to the cephalothorax, and furnished with a few prominent spine-like bristles in front.

The *maxillæ*, *labium*, and *sternum* are similar to the legs in colour.

The *abdomen* is of a dull yellowish hue tinged with brown ; two tubercles form a transverse row towards the anterior margin ; from each issues a strong dark vertical spine, two finer spines also form another transverse row in front below the anterior margin ; and the surface of the upper side generally is furnished with short and still finer pale spines. The spinners are small and short.

An example of the female, which had not attained maturity, was contained in the collection received from the Amazons. The *cephalothorax* of a considerably larger specimen (wanting the abdomen and some of the legs) differed in the larger size of the tubercles and granulosities, and was of a much deeper hue. This was probably an adult example.

The genus *Aphantochilus*, Cambr. (P. Z. S. 1870, p. 744, pl. xlv. fig. 10), was placed provisionally in the family Myrmeceidæ. Subsequent examination and consideration, however, led me to conclude without any doubt that its true position was, if not among, at least near the Thomisidæ. The examination of the present genus, which much resembles, and is closely allied to *Aphantochilus*, induces me to include the two in a separate family next to the one before mentioned.

Fam. PERISSOBLEMMIDÆ.

Gen. nov. PERISSOBLEMMÆ.

Characters of the Genus.

Cephalothorax rather oblong, oval, with a broad ocular area ; very convex above ; lateral marginal constriction at the caput very slight, as also are the normal indentations ; thoracic junction prominent and elevated, and, when looked at in profile, considerably higher than the ocular area, which occupies the whole width of the fore part of the caput.

Eyes considerably unequal in size; the four smallest form a slightly curved transverse line a little way above the falces; in continuation of the curve, at each end of the line, is a much larger eye, with another beyond it, behind, and lower down, seated on a strong tubercular prominence. The eight eyes may thus be said to form only one long transverse sinuous line, a position very unusual, and, in fact, almost (so far as I know) unique among the eight-eyed Spiders, approaching, however, somewhat near to that of *Selenops*, Dup.

Legs rather short, laterigrade, not very strong, but tapering, not very unequal in length, (so far as I could ascertain) 1, 2, 4, 3—1, 2 and 4 being very nearly equal, and 3 being not much shorter. They are furnished with hairs and also with long spines beneath the tibiæ and metatarsi, arranged in two (parallel) rows, and terminate with three tarsal claws, the two superior ones curved and pectinated, the inferior one very small and most strongly curved.

Palpi moderately long, and terminating with a curved pectinated claw.

Falces short, conical, strong, and vertical.

Maxillæ moderate in length and strength; enlarged and rather divergent at their extremities, where they are rounded on the outer sides.

Labium somewhat oblong, (apparently) a little rounded at the apex, and about half the length of the maxillæ.

Sternum small, oval, pointed at its posterior extremity.

Abdomen short-oval, fitting well up to the base of the cephalothorax. Spinners small, two-jointed. The anal tubercle is apparently two-jointed, and follows several rather conspicuously marked transverse folds in the epidermis, denoting no doubt obsolete segments of the abdomen.

PERISSOBLENMA THOMISIFORME, sp. n. (Plate LXVI. fig. 6.)

Length of an immature female, $1\frac{1}{2}$ line.

The *cephalothorax*, *falces*, *maxillæ*, *labium*, and *sternum* are darkish dull brown, slightly tinged with yellow, and with traces of a paler ill-defined longitudinal central band. The legs and palpi are yellow, and the abdomen a little paler than the cephalothorax, with a short, narrow, central, longitudinal stripe of a darker hue on the fore part.

The two central eyes of the long row in which the eight are disposed are larger than the one next to each, and are further from each other than each is from the next one to it; the eyes seated on each of the large tubercles at the extremities of the row are rather smaller than that next to each.

A single example was contained in the Amazons collection sent to me by Prof. Traill.

It is impossible to conjecture what size the adult form of this remarkable Spider may attain. Had it not been for the possession of three terminal tarsal claws, I should have concluded it to belong to the Thomisidæ. It seems to me impossible to include it in any at present recognized family. Wherever, however, it may be eventually placed, the genus is a very distinct one.

